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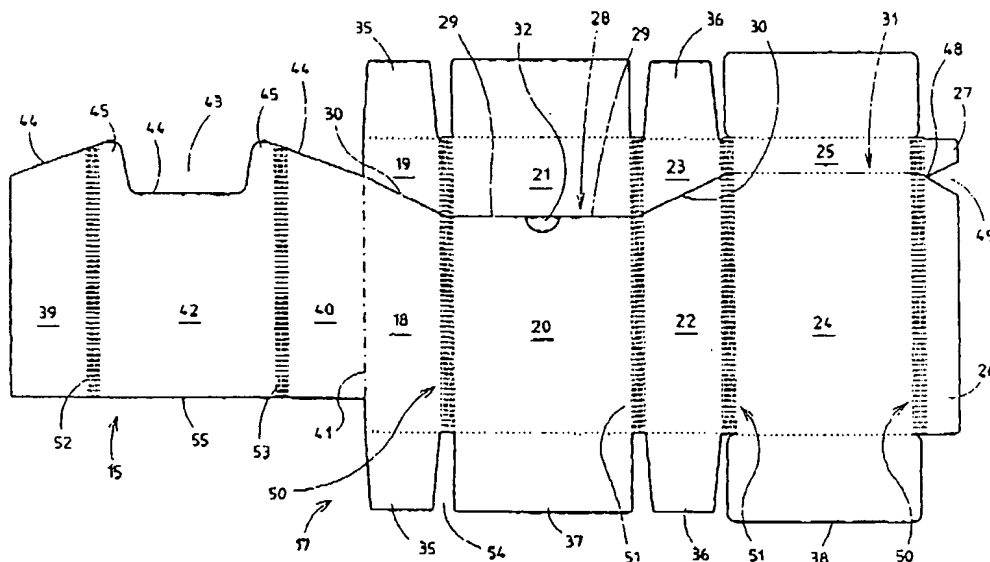
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(54) Title: FOLDING PACKET

(54) Bezeichnung: KLAPPSCHACITTEL

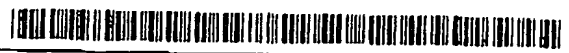


(57) Abstract: The invention relates to the manufacturing of a folding-packet type packaging for cigarettes, preferably a container-type packaging, wherein a blank, consisting of a main blank section (17) and a collar (15) joined in a single-piece thereto, is used. The entire blank arising therefrom is processed according to the cross-winding principle. The collar (15) is connected to the packaging blank (17) by means of a folding line (41) located on the edge in the region of outer packet side lobe (18).

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Zur Erklärung der Zweibuchstaben-Codes und der anderen Abkürzungen wird auf die Erklärungen ("Guidance Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen.

(57) Zusammenfassung: Für die Fertigung von (Zigaretten-)Packungen des Typs Klappschachtel, vorzugsweise als Gebindepackung, kommt ein Zuschnitt zum Einsatz, der aus einem Hauptzuschnitt (17) und einem einstückig mit diesem verbundenen Kragen (15) besteht. Ein sich hieraus ergebender Gesamtzuschnitt wird nach dem Prinzip des Querwickelns verarbeitet. Der Kragen (15) ist über eine randseitige Faltlinie (41) im Bereich eines äusseren SchachtelSeitenlappens (18) mit dem Packungszuschnitt (17) verbunden.

Hinge-lid box

Description

5 The invention relates to a hinged-lid box for cigarettes or cigarette packs, comprising a single-piece package blank made of (thin) cardboard for the purpose of forming a box part with box front wall, box rear wall, box side walls and a lid having lid front wall, lid rear wall and lid side walls, it being possible during the finishing process of the hinge-lid box to fold a collar, which is connected as a
10 single piece to one side of the package blank, against an inner side of the package blank.

Such blanks are usually processed according to the transverse enveloping principle.

The invention is based on the object of further developing and improving the
15 aforementioned hinge-lid box, thus making it possible to manufacture hinge-lid boxes on high-performance packaging machines.

To achieve this object, the hinge-lid box according to the invention, or a blank for its manufacture, is characterized by the following features:

- 20 a) the package blank forms successive or continuous regions for an outer box side tab and lid side tab, box front wall and lid front wall, box side wall and lid side wall, box rear wall and lid rear wall, as well as marginal connective strips for connecting opposite marginal side tabs,
- b) the collar is attached to a free edge of the side tab.

During the production of the hinge-lid box, a first folding step involves folding the
25 collar into the correct package position abutting the side tabs, the box front wall and the box side wall. The blank can now be folded around the package contents, with the (centered) box side wall with lid side wall being placed on a narrow side of the object to be wrapped and which can also be further processed by making U-folds.

The collar as part of the overall blank has a special configuration, specifically concerning the course of a top collar edge with respect to the relative position to the package blank and its dimensions.

Hinge-lid boxes made from the blank according to the invention are particularly
5 advantageous for use as a suitable multipack for cigarettes, i.e. for
accommodating a group of cigarette packs. One special feature is that by virtue of
the sizing of the blank and the resulting hinge-lid box, a group of five adjacent
cigarette packs are arranged in an upright position within the hinge-lid box. In
addition, it is possible to connect two thusly formed multipack hinge-lid boxes to
10 form a divisible or detachable unit, with the base walls of the hinge-lid boxes lying
against one another, which can be detachably connected by means of adhesive
tabs or the like, for example. According to a further special feature, the cigarette
packs are arranged in the hinge-lid box, which is designed to give the impression
of a multipack, by being stacked on top of one another and arranged with their
15 large-surface pack sides facing one another, in particular with rear wall facing
front wall.

Further special features of the hinge-lid box and blank according to the invention
will be discussed in more detail below with the help of the drawings, which show:

- Fig. 1 perspective view of a hinge-lid box in its closed position,
20 Fig. 2 the package according to Fig. 1 with the lid in an open position,
Fig. 3 a laid-open blank, namely the complete blank for a hinge-lid box according
to Fig. 1, Fig. 2,
Fig. 4 the blank, or complete blank, according to Fig. 3 in an intermediate folding
position,
25 Fig. 5 side view of the hinge-lid box with closed lid,
Fig. 6 perspective view of a different embodiment of a hinged-lid box or multipack
with open lid,
Fig. 7 a modified blank for a hinge-lid box (element) of the multipack according to
Fig. 6, in laid-out position,

Fig.8 perspective view of another embodiment of a hinge-lid box as a multipack for cigarettes.

The exemplary embodiments shown in the drawings are hinge-lid boxes for accommodating a group of packs, namely cigarette packs 10. These are also hinge-lid packages whose embodiment is basically known. The group is arranged in a large-volume multipack configured as a hinge-lid package. The positioning of the cigarette packs 10 in the exemplary embodiment according to Fig. 1, Fig. 2 is made as two pack groups 11, 12 arranged one above the other. The cigarette packs 10 within the pack groups 11, 12 are positioned next to each other in a row and aligned one above the other such that two cigarette pack 10 each are arranged exactly one above the other, with a total of ten cigarette packs 10. The pack contents formed in this manner completely fills the multipack, or hinge-lid box.

The hinge-lid box is comprised, in conventional manner, of a lower box part 13 and an (upper) lid 14. Disposed within the hinge-lid box is a collar 15, which is seated within the box part 13 with a predominant, lower section. An upper collar head 16 which projects above the box part 13 is surrounded by the lid 14 when the box is closed.

The overall hinge-lid box comprises a single-piece blank, namely a complete blank pursuant to Fig. 3. As part of the complete blank, a package blank 17 forms mutually delimited blank regions by means of embossed lines, namely – following one another in the transverse direction – a marginal box side tab 18 with lid side tab 19 joining it at the top. Adjacent thereto is a box front wall 20 with a connected lid front wall 21. Following in the transverse direction is a box side wall 22 with lid side wall 23. Connected thereto are box rear wall 24 and lid rear wall 25. Located at the free edge of the box rear wall 24 is a box strip 26 with a corresponding lid strip 27. The projecting walls of the box part 13, on one hand, and the lid 14, on the other hand, are delimited from one another in the region of the front wall and side walls by means of a punched line 28, which has a plurality of residual connections 29, 30 of the material for the purpose of creating a connection between the lid 14 and box part 13 before the lid 14 is opened for the first time.

Formed in the region of the box front wall 20 and lid front wall 21 are two residual connections 29 located at a distance from one another, while a centered residual connection 30 is formed in each region of box side tab 18 and box side wall 22. The residual connections 29, 30 are severed when the lid 14 is opened for the first time. The box rear wall 24 and lid rear wall 25 are delimited from each other by a hinged line 31 which is configured as a punched line in some of its regions. The punched line 28 runs in the region of the box side tab 18 and in the region of the box side wall 22 in an oblique downward direction to a transverse section of the punched line 28 in the region of the box front wall 20. Formed in the middle of the box front wall 20 at the lower side of the punched line 28 is an orifice 32 which is delimited in a semicircular shape and which facilitates the opening of the hinge-lid box when it is used for the first time.

An upper end wall 33 of the lid 14 and a lower base wall 34 of the box part 13 each comprise a plurality of folding tabs folded over one another which are arranged in the extension of the walls 19, 21, 23, 25 and the walls 18, 20, 22 und 24, respectively. Arranged in the region of box side tabs 18 and lid side tab 19 as well as in the region of the box side wall 22 and the lid side wall 23 are trapezoid-shaped corner tabs, which in the finished hinge-lid box lie on the inner side of end wall 33 and base wall 34. An essentially rectangular inner tab 37 is attached in the region of the box front wall 20 and in the region of the lid front wall 21. This inner tab 37 is slightly smaller than the surface area of end wall 33 and base wall 34. The inner tab 37 lies on the outer side of the corner tabs 35, 36. Outer corner tabs 38 are arranged in the region of box rear wall 24 and lid rear wall 25. The cover tabs 38 form the outer side or outer layer of end wall 33 and base wall 34. The respective cover tabs 38 correspond exactly in size and contour to the end wall 33 and base wall 34.

One special feature is the positioning of the collar 15 as part of the complete blank. The collar 15 is attached to the box side tab 18, specifically with one of two collar flaps 39, 40. The collar flap 40 is connected to a free edge of the box side tab 18 by means of a folding line 41. The folding line 41 is formed by punching and partial cuts that allow for easy non-stressed folding.

The collar 15 has in the region of a central collar front wall 42 a conventional center depression 43 that is bordered by an upper collar edge 44. Proceeding from each collar corner 45 the collar edge 44 extends downwards at an oblique angle, specifically as a continuation of the oblique course across the two collar flaps 39, 40. In the region of the box side tab 18 the collar edge 44 precisely meets the end of the punched line 28, but at a slightly different angle.

In a first folding step during the production of the hinge-lid box, the collar 15 is folded at the folding line 41 until it lies on the inner side of the package blank 17 (Fig. 4). In the process, the collar flap 40 lies on the inner side of the box side tab 18. This first folding step is preferably already executed during the production of the blank in a paper or paper board manufacturing plant, so that, in terms of the collar 15, prepared, partially-folded blanks for further processing can be delivered. The collar front wall 42 covers a part of the box front wall 20 and the lid front wall 21. In addition, the collar flap 39 lies on the box side wall 22. In this folded position the collar 15 is merely connected to the package blank 17 in the region of the box side tab 18, namely by means of (two) glue beads 46. This first folding step is expediently executed by the manufacturer of the blanks, so that blanks in the shape shown in Fig. 4 are delivered and fed to the packer.

The blank can now be folded around the block-shaped package contents, expediently by laying the box side wall 22 and lid side wall 23 on the package contents and folding the rest of the blank in a U-shaped manner. In order to complete a sleeve-like intermediate folding position, the box strips 26 are connected to the free side of the collar flap 40 by adhesive bonding. Correspondingly, the lid strip 27 separated from the box strip 26 is likewise connected by adhesive bonding to the inner side of the lid side tab 19. Afterwards the folding tabs for forming the end wall 33 and base wall 34 are folded and joined to each other by adhesive bonding.

By virtue of the course of the punched line 28, on one hand, and the contours of the collar 15, in particular the collar edge 44, on the other hand, the collar edge 44 in the region of the box side tab 18 and in the region of the box side wall 22 runs

from the front side of the hinge-lid box to its rear side in a oblique downward direction, while a closing edge formed by the punched line 28 assumes an oblique upward direction from the front side to the rear side. Collar edge 44 and closing edge, or punched line, 28 converge at an acute angle and meet at a contact point 48 at the rear side.

Due to the package construction outlined above, box strip 26 and lid strip 27 are separated from each other by a wedge-shaped cutout 49 at the height of the hinged line 31. This results in obliquely directed edges of the box strip 26 and lid strip 27 corresponding to the course of the closing edge and collar edge 44 (Fig. 5). The angle defined by the cutout 49 is somewhat greater than the angle defined by the collar edge 44 and closing edge in the region of the package sides, with the result that the oblique edges of the box strip 26 and lid strip 27 bordering the cutout 49 are not visible from the exterior (Fig. 5).

A special feature is the design of the hinge-lid box with round package edges 50, 51 in the region of the box part 13 and lid 14 as well as in the region of the collar 15. The rounding of the package edges 50, 51 has in particular been sized to conform to the dimensions of the package contents in this region, in particular to the rounded shape of cigarettes – for cigarette pack 10 - or to the rounded contours of cigarette packs 10 with round corners (Fig. 2). However, the roundings of the package edges 50, 51 can also exhibit a greater radius. The collar 15 being then so configured that after the first folding step (Fig. 4), round edges 52, 53 of the collar 15 lie precisely on the associated package edges 50, 51 of the box front wall 20. In addition, the collar 15 is configured namely with respect to the course of the collar edge 44 such that the contact point 48 lies outside the region of the round package edges 50, 51 (Fig. 5). Furthermore, due to punchings 54, the resulting configuration of the inside folding tabs of end wall 33 and base wall 34 is such that their formation lies outside the region of the round package edges 50, 51.

Analogously, the package can also be designed with oblique edges, i.e. with beveled package edges, resulting in an package having an octagonal cross section.

In a multipack for two pack groups 11, 12 arranged one above the other, the collar 15 is dimensioned such that a lower edge 55 extends at a slight distance above the base wall 34. The collar 15 has been dimensioned such that the cigarette packs 10 of both pack groups 11, 12 are provided with stable support. This means that the collar 15 extends at least to a point below the middle of the cigarette packs 10 of the lower pack group 12.

A special feature is shown in Fig. 6 and Fig. 7. A multipack designed as a hinge-lid pack is comprised of two sub-packages 56, 57. Each of these sub-packages 56, 57 is a hinge-lid box having the features of the exemplary embodiment pursuant to Fig.1 to Fig. 5. The only difference is in the dimensions of the blank and thus of the hinge-lid box or sub-package 56, 57. For each sub-package 56, 57 is dimensioned such that a pack group 11 or 12 of five cigarette packs 10 can be accommodated in a sub-package 56, 57. Here the cigarette packs 10 are ordered in the same manner as the pack groups in the hinge-lid box pursuant to Fig. 2, i.e. positioned upright and occupying the complete volume of the package. In this exemplary embodiment a collar 15 also extends to the immediate region of a base wall, with the result that collar front wall 42 and collar flaps 39, 40 support the (individual) pack group 11, 12 across practically its complete height.

In Fig. 6, two such sub-packages 56, 57 have been consolidated to form a multipack unit. To this end, two sub-packages 56, 57 of matching configuration lie with their base walls 34 against one another. In this region the sub-packages 56, 57 are (detachably) connected to one another. The shown exemplary embodiment has in each region of adjacent narrow side walls a connecting element, namely an adhesive label 58 with a weakening line, namely a perforation line 59 in the region of the abutting base walls 34. The unit shown in Fig. 6 can be divided by the dealer or consumer by severing the perforation line 59.

The arrangement of the sub-packages 56, 57 has been chosen in order that they are laterally reversed, i.e. with each box front wall 20 of the one sub-package 56 being on the same side as the box rear wall 24 of the other sub-package 57.

Another special feature is shown in Fig. 8. There too a hinge-lid box – whose cross-section exhibits right-angle pack corners – is configured as a multipack for a number of cigarette packs 10. The special feature here is the arrangement of the cigarette packs 10 within the hinge-lid box. These are positioned in the hinge-lid box with their large-surface pack sides, namely with front side and rear side, facing each other. Their plan view dimension has been chosen to correspond to the front or rear side of a standard cigarette pack 10. The height of the hinge-lid box corresponds to the number of cigarette packs 10 lying flat and arranged one above the other; in the exemplary embodiment pursuant to Fig. 8 this is the height of five cigarette packs 10.

List of designations

10	cigarette pack	41	folding line
11	pack group	42	collar front wall
12	pack group	43	depression
5 13	box part	44	collar edge
14	lid	45	collar corner
15	collar	46	glue bead
16	collar head	48	contact point
17	package blank	49	cutout
10 18	box side tab	50	package edge
19	lid side tab	51	package edge
20	box front wall	52	round edge
21	lid front wall	53	round edge
22	box side wall	54	punching
15 23	lid side wall	55	lower edge
24	box rear wall	56	sub-package
25	lid rear wall	57	sub-package
26	box strip	58	adhesive label
27	lid strip	59	perforation line
20 28	punched line		
29	residual connection		
30	residual connection		
31	hinged line		
32	orifice		
25 33	end wall		
34	base wall		
35	corner tab		
36	corner tab		
37	inner tab		
30 38	cover tab		
39	collar flap		
40	collar flap		

Patent claims

1. Hinged-lid box for cigarettes or cigarette packs (10), comprising blank – package blank (17) – made of (thin) cardboard for the purpose of forming a box part (13) with box front wall (20), box rear wall (24), box side walls (22) and a lid (14) having lid front wall (21, lid rear wall (25) and lid side walls (23), it being possible during the production process to fold a collar (15), which is connected as a single piece to one side of the package blank (17), against an inner side of the package blank (17), **characterized by** the following features:

- a) the blank – package blank (17) – forms successive or continuous regions for an outer box side tab (18) and lid side tab (19), box front wall (20) and lid front wall (21), box side wall (22) and lid side wall (23), box rear wall (24) and lid rear wall (25), as well as a marginal connective strip for connecting the side tab (18, 19),
- b) the collar (15) is attached to a free edge of the (outer) box side tab (18).

2. Hinge-lid box according to Claim 1, **characterized in that** the package blank (17) has punched lines (28) for the purpose of delimiting the lid front wall (21), lid side tab (19) and lid side wall (23) from adjacent regions of the box part (13), with a plurality, in particular, two spaced-apart residual connections (29) being formed by a transverse section of the punched line (28) in the region of box front wall (20) and lid front wall (21) and a residual connection (30) being formed in the middle of each oblique leg of the punched line (28) separating the box side tab (18) from the lid side tab (19), on one hand, and the box side wall (22) from the lid side wall (23), on the other hand.

3. Hinge-lid box according to Claim 1 or 2, **characterized in that** the collar (15) comprising the collar front wall (42) and lateral collar flaps (39, 40) is delimited by an upper collar edge (44) which assumes an oblique sloping configuration at least in the region of lateral collar flaps (39, 40).

4. Hinge-lid box according to Claim 3 or one of the further Claims, **characterized in that** the collar (15) has in a centered region of the collar front wall (42) a depression (43) bordered by the collar edge (44) and that the collar

edge (44) joining the depression (43) has a (straight) oblique sloping configuration proceeding from collar corners (45).

5. Hinge-lid box according to Claim 3 or one of the further Claims, **characterized in that**, in the region where the collar flap (40) joins the box side tab (18), the collar edge (44) joins a punched line (28) formed in the region of the package blank (17) for delimiting the box part (13) from the collar (15), with preferably an oblique leg of the punched line (28) being directed toward the collar edge (44) at an obtuse angle.

6. Hinge-lid box according to Claim 1 or one of the further Claims, **characterized in that** the collar (15) folded against the inner side of the package blank (17) is connected to the package blank (17) (exclusively) in the region of box side tab (18) and collar flap (40), preferably by means of (two) glue beads (46).

7. Hinge-lid box according to Claim 1 or one of the further Claims, **characterized in that** box strip (26) arranged opposite to the box side tab (18) is connected to the inner side of the collar flap (40) in the region of the collar (15) and to the inner side of the box side tab (18) outside of the collar (15).

8. Hinge-lid box according to Claim 1, **characterized in that** a lid strip (27) laterally attached to the region of the lid rear wall (25) as a continuation of the box strip (26) is connected to the lid side tab (19).

9. Hinge-lid box according to Claim 1 or one of the further Claims, **characterized in that** box strip (26) and lid strip (27) are delimited from one another by a wedge-shaped punching (49) to form oblique edges.

10. Hinge-lid box according to Claim 1 or one of the further Claims, **characterized in that**, for the purpose of accommodating two pack groups (11, 12) arranged one above the other and comprising individual packages or cigarette packs (10), the collar (15) extends into a region of the lower pack group (12), in particular to a region below an (imaginary) midplane of the packs of the lower pack group (12).

11. Hinge-lid box according to Claim 1 or one of the further Claims, **characterized in that** upright package edges (50, 51) are configured as round corners or as beveled edges, in particular by conforming to the corresponding shape of the package contents – round-corner cigarette packs (10) or cigarettes.

5 12. Hinge-lid box according to Claim 1 or one of the further Claims, **characterized in that** the hinge-lid box serving as a multipack is sized to a height corresponding to the height of a (conventional) cigarette pack (10) and preferably being dimensioned in its width that five cigarette packs (10) positioned next to each other can be accommodated.

10 13. Hinge-lid box according to Claim 12 or one of the further Claims, **characterized in that** at least two hinge-lid boxes as sub-packages (56, 57) are joined to form a multipack unit, with the sub-packages (56, 57) preferably lying with their base walls (34) against one another and being connected (detachably) to one another in this region.

15 14. Hinge lid box according to Claim 13 or one of the further Claims, **characterized in that** the sub-packages (56, 57) are connected to one another on at least two facing sides, in particular, narrow sides, in each case by means of an adhesive label (58), with the adhesive label preferably having a perforation line (59) in the region of the abutting base walls (34).

20 15. Hinge-lid box according to Claim 1 or one of the further Claims, **characterized in that** conventionally configured cigarette packs (10) lie flat in the hinge-lid box serving as a multipack and are arranged with their front side or rear side facing upwards or downwards.

Abstract (in conjunction with Fig. 3)

Employed in the manufacture of (cigarette) packs of the hinge-lid type, preferably as a multipack, is a blank comprising a main package blank (17) and a collar (15) connected thereto as a single piece. A resulting complete blank is processed
5 according to the transverse enveloping principle. The collar (15) is connected to the package blank (17) by means of a marginal folding line (41) in the region of an outer box side tab (18).